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(54) DISPENSER FOR USE IN RUBBING
 MEDICAL FLUID INTO SKIN

- (71) We, KOBAYASHI PHARMACEUTICAL Co., LTD., a Japanese body corporate, of 25, Dosho-machi 5-chome, Higashi-ku, Osaka-shi, Osaka, Japan, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- 10 The present invention relates to a dispenser or container for use in rubbing a medical liquid into skin with the dispenser held in hands.
- 15 Hitherto, a dispenser or container for use in applying or rubbing a liquid medicine, such as for instance an anodyne, into diseased skin has an elongated body which mounts a liquid exuding or applying portion on its top.
- 20 However, such a dispenser suffers from disadvantages in that it fails to apply the medical liquid to a desired portion of the skin or it requires frequent change of the direction of dispenser held in hands,
- 25 because in the practical application of the dispenser, the dispenser has to be held in hands around its body portion, with the liquid applying portion thereof mounted on top of the body of the dispenser and directed perpendicularly to the diseased portion of skin. In other words, the liquid applying portion and the body portion of the dispenser are rigidly provided coaxially with each other, and the liquid applying
- 35 portion is not allowed for bending relative to the body portion of the dispenser.
- This results in inconvenience on the part of a patient, such as due to twisting his or her body for reaching such a diseased portion of skin, which will not give ready access, when he or she tries to apply the medical liquid by oneself. This also fails to encourage one in rapidly applying treatment to such a diseased portion of skin.
- 45 This invention is directed to avoiding

such short-comings which have been experienced with the prior art dispenser of this type, in which the liquid applying portion is provided coaxially with the body of the dispenser. This invention is also intended by avoiding the aforesaid shortcomings to provide dispensers which are convenient in handling and suited for mass production.

According to the present invention there is provided a dispenser for use in rubbing a medical liquid into skin comprising a body portion, a neck portion the axis of which extends obliquely or at a right angle to the axis of the body portion, a shoulder portion between and formed integrally with said body and neck portions, the shoulder portion having a cross-sectional area smaller than that of the body portion, and a liquid applicator comprising a liquid applying portion mounted in the end of the neck portion and a material for exuding liquid covering said liquid applying portion.

The liquid exuding material is preferably sponge. The dispenser according to the present invention may be provided with a cap for covering the liquid applicator.

The present invention will now be further described with reference to the accompanying drawings in which:—

Fig. 1 is a perspective view of a dispenser for use in rubbing a medical liquid into skin;

Fig. 2 is a side view of the dispenser, shown with the cap removed; and

Fig. 3 is a longitudinal cross-sectional view of Fig. 2, taken along the center line.

Referring now to Figs. 1 and 2, shown at 1 is a body proper of a dispenser for use in rubbing or applying a medical liquid into skin, at 2 a cap for covering a medical fluid applying portion, at 3 a shoulder portion extending from a body of the dispenser, at 4 a neck portion having a

threaded portion for fixing the cap 2 thereon, at 5 is a liquid applying portion attached to the end of the neck portion 4.

Referring to Fig. 3 which shows the cross-sectional view of the dispenser, shown at 1' is a bottom portion of the dispenser, at C a center line of the dispenser, at C'-C' a center line of the neck portion 4, at 6 a liquid exuding material such as of sponge covering the portion 5, at 7 a supporting-member forming part of the portion 5 to be fitted in the neck portion 4 and carrying the liquid exuding material 6, at 8 a boundary surface between the neck portion 4 and the shoulder portion 3 of the dispenser 1, said boundary surface providing an abutting surface for the cap on the body of the dispenser, when closed and tightened, the abutting surface being slightly drawn, at 9 a groove defined in the top surface of the portion of the neck portion for rigidly affixing the liquid exuding material 6 therein, at 10 a hollow portion, in which dwells the medical liquid to be exuded through the liquid applying portion, at 11 a communicating passage for the medical liquid, the passage 11 being defined through the top surface of the supporting portion 7, at 12 an interface between the neck portion 4 and the supporting portion 7 fitted on the neck portion 4. (This interface may be used for a thread-coupling or press-fit coupling.

More particularly, the neck portion 4 mounting the portion 5 thereon extends from the shoulder portion 3 of the body 1 of the dispenser and faces obliquely upwards thereof on one side of the center line C'-C'. The angle α formed between the center axis C and the center line C'-C' may be 90° rather than that shown in the drawing; and preferably ranges from 10 to 90 degree, inclusive. However, most preferably, the angle should range from 30 to 90 degree, inclusive. In addition, the neck portion 4 may be directed or twisted to any desired direction, with the center-line C'-C' being taken as a subaxis.

In operation, a user holds the body portion 1 of a dispenser and then takes out the cap 2. Then, the user presses the liquid exuding material 6 on the diseased skin portion, while rubbing same on the skin. Then, the medical liquid is exuded through the hollow portion 10, in which dwells the medical liquid, as well as through the communication hole 11 to the liquid exuding material 6 for application of the medical liquid to skin. It should be noted that the portion 5 well accommodates the application of the medical liquid to a portion of the skin which otherwise would not reach thereto, if resorted to the prior art dispenser, because the liquid applying portion of the dispenser according to the present

invention is directed at an angle α to the direction of the body of the dispenser, thus presenting convenience in application to the skin portion which gives poor access. That is, when the dispenser of the invention is used, the user can very easily handle it and rub the medical fluid onto any part of his body by directing the applicator portion thereonto. Also, the applicator portion is carried snugly but releasably, facilitating the refilling or exchanging of the medical fluid and providing a proper seal to prevent leakage of the medical fluid even if it contains an alcoholic agent. The portion 5 is provided so as not to extend too far from the end of the shoulder portion 3, so that it renders the construction compact and convenient for use. In addition, the configuration of the dispenser according to the present invention well attracts the attention, because of its unique configuration when placed among other household medicines. Still furthermore, the dispenser according to the present invention is well suited for mass production and affords considerable effect, when applied to the diseased skin of a body.

WHAT WE CLAIM IS:—

1. A dispenser for use in rubbing a medical liquid into skin comprising a body portion, a neck portion the axis of which extends obliquely or at a right angle to the axis of the body portion, a shoulder portion between and formed integrally with said body and neck portions, the shoulder portion having a cross-sectional area smaller than that of the body portion, and a liquid applicator comprising a liquid applying portion mounted in the end of the neck portion and a material for exuding liquid covering said liquid applying portion.

2. A dispenser as claimed in claim 1 in which the material for exuding liquid is sponge.

3. A dispenser as claimed in claim 1 or 2 in which the liquid applicator is covered by a cap.

4. A dispenser as claimed in claim 1, 2 or 3 in which the angle between the axis of the body portion and the axis of the neck portion is from 10° to 90°.

5. A dispenser as claimed in claim 4 in which the angle is from 30° to 90°.

6. A dispenser as claimed in claim 4 in which the angle is 90°.

7. A dispenser substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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